REMARKS

Summary of the Final Office Action / Advisory Action

Claims 10 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent 7,323,001 to Clubb et al. ("*Clubb*") in view of U.S. Patent 5,653,696 to Shiber ("*Shiber*").

Claims 11 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Clubb* in view of *Shiber* further in view of U.S. Patent 5,373,619 to Fleischhacker et al. ("*Fleischhacker*").

The Advisory Action indicates that the response filed January 9, 2009 has been considered but does not place the application in condition for allowance.

Summary of Response to the Final Office Action / Advisory Action

Claims 10 and 11 are amended. Claims 13 and 14 are cancelled without prejudice or disclaimer. Claims 1-9 and 12 were canceled previously without prejudice or disclaimer. Accordingly, claims 10 and 11 are presently pending for consideration.

All Claims Define Allowable Subject Matter

Claims 10 and 13 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Clubb* in view of *Shiber*. Claims 11 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Clubb* in view of *Shiber* and further in view of *Fleischhacker*. Applicants respectfully traverse the rejections for at least the following reasons.

With respect to independent claim 10, as amended, Applicants respectfully submit that none of the applied prior art, whether taken singly or combined, teaches or suggests a combination of features including at least "a flexible hollow tube body formed by a plurality of austenitic stainless steel wires cylindrically stranded around an elongate core into a wire-rope

configuration" and "helical grooves provided at an inner surface of said flexible tube body, said helical grooves being formed by said stranded austenitic stainless steel wires helically and tightly stranded in abutting relationship with each other to carry away said hard clot powder in a rearward direction therealong."

On page 3, the Final Office Action alleges that "*Clubb* discloses a flexible hollow tube body 50 formed by a plurality of austenitic stainless steel wires 56 tightly stranded cylindrically around an elongate core 54 into a wire-rope configuration, see Figs. 5A, 5B; C9, L62 – C10, L20," and "Helical grooves in an inner surface of the tube body formed by the stranded steel wires helically and tightly stranded abutting each other are capable of carrying away hard clot powder, see Fig. 5B." In addition, the Final Office Action asserts that "it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the device of *Clubb* with the knife-edge circle front as taught by *Shiber* for breaking up the clot material." Applicants respectfully disagree.

In contrast to the Applicants' claimed invention, *Clubb* discloses a conically shaped filter 50 (FIG. 5B) which is formed by minibraids (see col. 10, lines 11-15). The minibraids are represented by a structure 52 comprised of 0.001 inch diameter braided nitinol wires 56 (FIG. 5A, col. 9, lines 62-65). This structure creates pores that are distributed throughout the filter to control the filtering of emboli from blood flowing through a lumen defined by the walls of a vessel in a patient's body. In other words, these pores are not "tightly stranded in abutting relationship with each other" as required by independent claim 10 "to carry away said hard clot powder." Accordingly, Applicants respectfully assert that one skilled in the art would not be motivated to modify the filter device of *Clubb* with the teachings of *Shiber* and *Fleischhacker* because the filter device of *Clubb* is designed to allow the certain components to travel to the

other side of the filter whereas the present invention does not form pores/openings that allow any component (i.e., the hard clot powder) to travel through the helical grooves to the outside.

In addition, Applicants respectfully submit the attached appendix to compare the present invention with the embodiments of *Clubb*, *Shiber*, and *Fleischhacker*. As is apparent from the appendix, none of the applied references teaches or suggests the features recited in the amended independent claim 10, hence dependent claim 11.

Applicants further distinguish *Clubb* from the claimed invention by noting the following differences. First, *Clubb* has no perforating function against a vascular occlusion while the present invention positively functions as a perforator against an obstruction area. Second, *Clubb* has no rotational function while the present invention has the blade edge of the knife-edge circle front provided to be advanced and operationally rotated as a drill. Third, *Clubb* permits the inducement of a turbulence along the minibraids of the filter, whereas the present invention can maintain the spiral current due to the blood streams running along the spiral groove of the helices of the helical spring body.

Accordingly Applicants respectfully request that the rejection of claim 10 be withdrawn. Further, Applicants respectfully submit that claim 11 is allowable at least because of its dependency from independent claim 10, and the reasons set forth above.

Response to the Advisory Action

The Advisory Action alleges that "[t]he pore size in *Clubb* is from 30 to 300 microns which the examiner believes is much smaller than the clot powder of applicant's invention thus no component of *Clubb* (i.e. the hard clot powder) would be able to travel through the helical grooves to the outside." Applicants respectfully submit that the Advisory Action has provided no support for the assertion that the hard clot powder is much larger than 30 to 300 microns.

Instead, *Clubb* seems to contemplate emboli smaller than the pore size, which would not be retained by the filter. *Clubb* states, "Embolic protection filters permit the passage of blood while retaining emboli that are larger than the pore size of the filter." col. 1, ll. 47-49. *Clubb* identifies a subset of emboli: emboli that are larger than the pore size of the filter. Presumably, *Clubb* recognizes that some emboli are smaller than the pore size of the filter and would not be retained. Accordingly, Applicants respectfully submit that the rejections of claim 10, and hence claim 11 should be withdrawn.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request reconsideration of this application, withdrawal of all rejections, and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.R.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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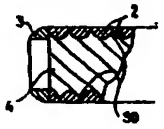
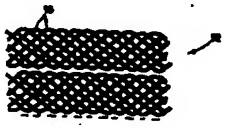
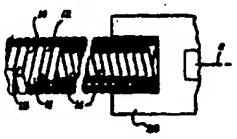
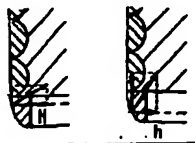
—Appendix—

Subject Invention	D3: U.S. 7,323,001	D2: U.S. 5,635,696	D1: U.S. 5,373,691
 Fig. 3	filter minibraid 52  Fig.5B  Fig.5A	guide wire (160)  catheter 21 in Fig. 5	 Fig. 1
· welded knife edge circle front	—None—	—None—	
· blade edge diametrically reduced front outwardly arcuated in cross section	—None—	· linear slope at distal end of catheter · tapered configuration	—None— —None—
· proximal side rotational force H		· no technological idea	· no technological idea
· distal side rotational force h H>h	—None—		
· mitigating the burden to which blade edge is subjected 			
· maintaining a proper strength of blade edge even if diametrically reduced	· minibraid means a gap between helices not tighly wound	· no tightly stranded wires	· technological idea greatly different from subject invention
· helically stranded with helices tightly abutted	· minibraid 52 catches emboli and unable to carry hard clot powder rearward	· under the presence of gap between helices, impossible to carry hard clot powder rearward	
· carrying hard clot power rearward along helical groove provided at inner wall of the flexible tube body	· filter with minibraids served for catching emboli · technological idea greatly different from subject invention		